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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/714,144	11/17/2000	Yosuke Hoi	0505-0714P	5531

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EXAMINER
BURCH, MELODY M

ART UNIT	PAPER NUMBER
3683	

DATE MAILED: 01/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/714,144	HOI ET AL.	
	Examiner	Art Unit	
	Melody M. Burch	3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 November 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-6,8-12 and 14-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-6,8-12 and 14-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 November 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☒ The proposed drawing correction filed on *26 November 2002* is: a)☒ approved b)☐ disapproved by the Examiner

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5339776 to Regueiro.

Re: claim 1. Regueiro shows in figure 1 a lubricating apparatus capable of being used for a dry sump type engine comprising: a cylindrical relief valve 54, the cylindrical relief valve being disposed in parallel to a main gallery 22 and portions of a crank shaft 24 of the engine as shown in figure 1.

Re: claim 2. The bases of the cylindrical relief valve of Regueiro are disposed in a horizontal direction.

Re: claim 6. Regueiro shows in figure 1 the lubricating apparatus comprising an oil tank 14 and a strainer 15 capable of being used for straining oil recovered in the oil tank, the strainer being provided in the oil tank.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Regueiro in view of US Patent 4638856 to Yamanaka et al. and further in view of US Patent 4928641 to Niizato et al.

Re: claims 3-5. Regueiro discloses and shows in figure 1 the relief valve comprising a cylindrical valve body unnumbered as shown received within a body or surrounding portion in the area of element number 54 including a discharge port 21 formed therein, wherein when hydraulic pressure within the main gallery becomes a predetermined value, the cylindrical valve body is operated to open the discharge port to relieve the hydraulic pressure, but does not disclose the specific limitation of the body being a generally L-shaped body with the other specific structural details of the valve body shape.

Yamanaka et al. teaches in figure 1 the use of a relief valve 56,57 having a generally L-shaped body 57 including a long pipe or portion above element number 57b, a short pipe or portion below and extending to the left of element number 57b, a stopper or shoulder in the area of the lead line associated with element number 56a for restricting movement of the cylindrical valve body in the long pipe, a spring 56b for biasing the cylindrical valve body toward the stopper, a spring stop 56c for pressing the spring, and a mounting portion (or flange portion of the short pipe portion shown extending below element number 57b). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the shape of the body of the relief valve of Regueiro to have been generally L-shaped, as taught by

Yamanaka et al. or any appropriate shape as best determined based on the arrangement of surrounding structures in the engine in order to provide a pressure adjusting means efficiently positioned to make the best use of the interior real estate of the engine. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the valve of Regueiro to have included the specific spring and stopper arrangement, as taught by Yamanaka et al., in order to provide a means of properly opening and closing the discharge port to efficiently regulate the fluid flow based on pressure.

Niizato et al. teaches in figure 6 the use of an L-shaped valve path 59,55,57. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the valve body of Takahashi et al., as modified, to have included an L-shape, in view of the teachings of Niizato et al., in order to provide a means of efficiently utilizing the real estate in the area of the relief valve.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5778848 to Takahashi et al. in view of Yamanaka et al. and US Patent 4928641 to Niizato et al.

Re: claim 8. Takahashi et al. shows in figure 1 a lubricating apparatus capable of being used for a dry sump type engine comprising an oil tank 58 and a relief valve 73 provided in the oil tank wherein the relief valve further comprises: a lead pipe 72 being connectable with an outlet pipe 66 of an oil filter 71 the relief valve having the limitation wherein when hydraulic pressure within the main gallery becomes a predetermined value, the relief valve relieves the hydraulic pressure. Yamanaka et al. teaches the use

of a lead pipe with a discharge port 55 formed therein, a cylindrical valve body 56a movable received within a generally L-shaped body to open and close the discharge port. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the relief valve of Takahashi et al. to have included a detailed construction, as taught by Yamanka et al., as it is a well-known arrangement of a relief valve to enable accurate metering of the pressure in the lubricating apparatus. Niizato et al. teaches in figure 6 the use of an L-shaped valve path 59,55,57. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the valve body of Takahashi et al., as modified, to have included an L-shape, in view of the teachings of Niizato et al., in order to provide a means of efficiently utilizing the real estate in the area of the relief valve.

6. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5778848 to Takahashi et al. in view of Yamanaka et al.

Re: claims 9 and 10. Takahashi et al. shows in figure 1 a lubricating apparatus capable of being used for a dry sump type engine comprising an oil tank 58 and a relief valve 73 provided in the oil tank wherein the relief valve further comprises: a lead pipe 72 being connectable with an outlet pipe 66 of an oil filter 71 the relief valve having the limitation wherein when hydraulic pressure within the main gallery becomes a predetermined value, the relief valve relieves the hydraulic pressure. Yamanaka et al. teaches the use of a lead pipe with a discharge port 55 formed therein, a cylindrical valve body 56a movable received within a generally L-shaped body to open and close the discharge port. It would have been obvious to one of ordinary skill in the art at the

time the invention was made to have modified the relief valve of Takahashi et al. to have included a detailed construction, as taught by Yamanka et al., as it is a well-known arrangement of a relief valve to enable accurate metering of the pressure in the lubricating apparatus. Takahashi et al., as modified, teach the use of a stopper or valve seat (See col. 5 line 53 of Yamanaka et al.) for restricting movement of the cylindrical valve body, a spring 56b for biasing the cylindrical valve body toward the stopper, and a spring stop 56c for pressing the spring. See Yamanaka et al. figure 1.

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5778848 to Takahashi et al. in view of Yamanaka et al. as applied to claim 9 above, and further in view of WIPO 99/14109 to Matsuto et al. (using US Patent 6158543 as an English equivalent throughout the Office Action). Matsuto et al. teach in figure 6 the use of a lubricating apparatus comprising: an oil tank 101 and a strainer 106 provided in the oil tank. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the lubricating apparatus of Takahashi et al., as modified, to have included a strainer in the oil tank, as taught by Matsuto et al., in order to provide a means of straining oil recovered in the oil tank to help rid the oil of debris.

8. Claims 12 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Regueiro in view of Nanami et al.

Re: claim 12. Regueiro shows in figure 1 an engine comprising: a crank shaft 24 mounted for rotation therein, a main gallery 22 extending in a longitudinal direction parallel to portions of the crank shaft and a cylindrical relief valve 54, the relief valve

being disposed in parallel to the main gallery and the crank shaft, but does not disclose that the engine is specifically of the dry sump type. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the engine of Regueiro to have included a dry sump type engine, as taught by Nanami et al., in order to provide advantageous oil control to the pump pick up to help prevent bearing failures due to oil starvation.

Re: claim 17. Regueiro shows in figure 1 an oil tank 14 and a strainer 15 being provided in the oil tank.

9. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Regueiro in view of Nanami et al. as applied to claim 12 above, and further in view of Yamanaka et al. and Niizato et al. Regueiro discloses and shows in figure 1 the relief valve comprising a cylindrical valve body unnumbered as shown received within a body or surrounding portion in the area of element number 54 including a discharge port 21 formed therein, wherein when hydraulic pressure within the main gallery becomes a predetermined value, the cylindrical valve body is operated to open the discharge port to relieve the hydraulic pressure, but does not disclose the specific limitation of the body being a generally L-shaped body with the other specific structural details of the valve body shape.

Yamanaka et al. teaches in figure 1 the use of a relief valve 56,57 having a generally L-shaped body 57 including a long pipe or portion above element number 57b, a short pipe or portion below and extending to the left of element number 57b, a stopper or shoulder in the area of the lead line associated with element number 56a for

restricting movement of the cylindrical valve body in the long pipe, a spring 56b for biasing the cylindrical valve body toward the stopper, a spring stop 56c for pressing the spring, and a mounting portion (or flange portion of the short pipe portion shown extending below element number 57b). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the shape of the body of the relief valve of Regueiro to have been generally L-shaped, as taught by Yamanaka et al. or any appropriate shape as best determined based on the arrangement of surrounding structures in the engine in order to provide a pressure adjusting means efficiently positioned to make the best use of the interior real estate of the engine. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the valve of Regueiro to have included the specific spring and stopper arrangement, as taught by Yamanaka et al., in order to provide a means of properly opening and closing the discharge port to efficiently regulate the fluid flow based on pressure.

Niizato et al. teaches in figure 6 the use of an L-shaped valve path 59,55,57. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the valve body of Takahashi et al., as modified, to have included an L-shape, in view of the teachings of Niizato et al., in order to provide a means of efficiently utilizing the real estate in the area of the relief valve.

Response to Arguments

10. Applicant's arguments filed 11/26/02 have been fully considered but they are not persuasive. With regard to the arguments with respect to the Regueiro reference,

Applicant argues that the reference does not show a longitudinal axis of a relief valve which is disposed in a horizontal direction nor does it show a longitudinal axis of a relief valve being parallel to the longitudinal axis of the crank shaft. Examiner notes that "horizontal" and "vertical" are relative terms that may be used to define arbitrary directions. Accordingly, the longitudinal axis of the relief valve 54 may be considered to lie in a horizontal direction relative to some vertically disposed device that lies perpendicular to the page. In light of such a perspective, the longitudinal axis of the relief valve 54, disposed in a horizontal direction, is disposed in parallel to a longitudinal axis of a main gallery 22 and a longitudinal axis of one of the longitudinally extending portions of a crank shaft 24 of the engine. Regarding claims 3-5 Applicant argues that Yamanaka et al. does not show a valve body having an L-shape, that element 57 is a mounting member, and that the relief valve is included in the longer section of the mounting member. Examiner notes that as shown in figure 6a of the instant application the valve portion of the relief valve is also included in the longer section of the mounting structure 28a,28f. The argument that the end of the cylindrical valve body portion of the valve of Yamanaka et al. ends before section 57B starts is more specific than the claim language. With regard to claims 8 and 9, Examiner notes that as shown in figure 1 of Takahashi et al. the oil tank 58 is mounted to an end (the bottom end shown in the area of element number 63) of the engine, so as to reduce a height of the engine (the height extending from element number 14 to element number 29 viewing the engine from the right side of the page).

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

mmb 1/13/03
mmb
January 13, 2003

1/14/2003
MATTHEW C. GRAHAM
PRIMARY EXAMINER
GROUP 310